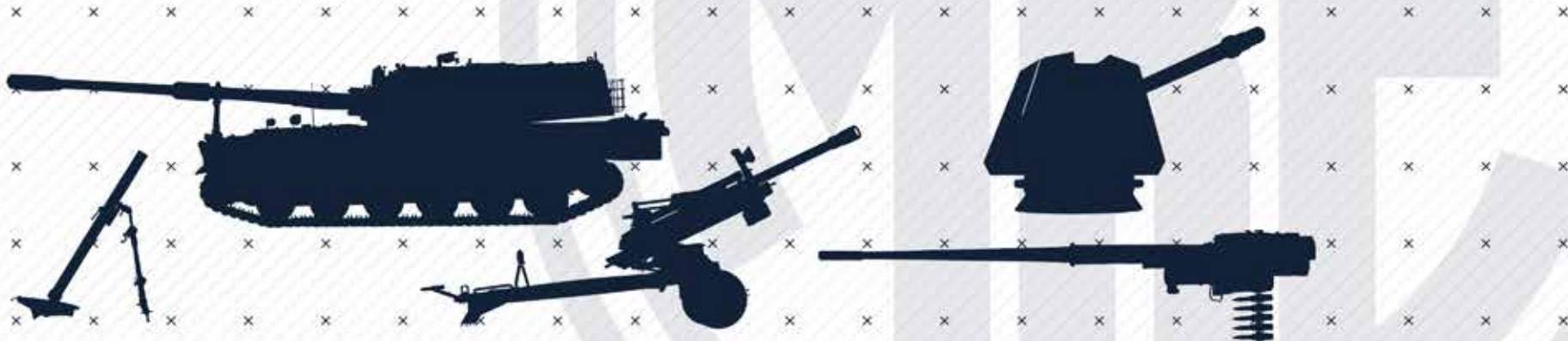


4

MEDIUM & HEAVY WEAPONS



MAKİNE VE KİMYA
ENDÜSTRİSİ







MEDIUM & HEAVY WEAPONS

4	20 MM	TWIN BARREL ANTI-AIRCRAFT & INFANTRY SUPPORT GUN	26	DENİZHAN	NATIONAL NAVAL GUN
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6	35 MM	TWIN BARREL ANTI-AIRCRAFT GUN	28-29	PİRANA KUSV	KAMIKAZE UNMANNED SURFACE VESSEL
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10	120 MM	HYT-12 MORTAR	33	120 MM 44C	LT120 BARREL
11	120 MM	MORTAR SYSTEM	34	155 MM 39C	L-39 HOWITZER WEAPON SYSTEM
14	BORAN	105 MM AIR TRANSPORTABLE LIGHT TOWED HOWITZER	35	155 MM 47C	L47 BARREL
15	DAĞHAN	TRACKED ARMORED VEHICLE	35	5 INCH (127 MM)	NATIONAL NAVAL ARTILLERY GUN BARREL
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ABOUT US

With a centuries-old artillery tradition, we manufacture large-caliber weapon systems such as mortar and howitzer systems, main gun systems for tanks, naval gun complexes, and various subcomponents of these weapons.

Our high-quality and cost-effective solutions are preferred by the Turkish Armed Forces as well as many countries around the world.



20 MM

TWIN BARREL ANTI-AIRCRAFT
& INFANTRY SUPPORT GUN



20 MM TWIN BARREL ANTI-AIRCRAFT & INFANTRY SUPPORT GUN	
Barrel Diamater	20 mm
Equipment	Oerlikon 20 mm automatic cannon
Type	GAI D01
Weapon Weigh	66 kg
Weigh (Travelling Position With Ammunition)	1800 kg
Barrel Lenght	1840 mm
Bullet Weight	0,321 kg
Rate of Fire	2 × 1050 rounds/min
Trace	With optronic computerized
Motor Power	5,15 kW(7HP DIN)
Muzzle Velocity	HL 1150 m/sec
Rotation Radius	3.000 mm
Rotation	Unlimited
Traverse	-3° to +81°
Horizontal Traverse (Angular Speed)	Max (80°/sec)
Vertical Movement (Angular Speed)	Max (48°/sec)
Effective Range	1200m (air targets), 2000m (ground targets)

25 MM

ILGAZ

AUTOMATIC CANNON



25 MM ILGAZ AUTOMATIC CANNON	
Barrel Diameter	25 mm
Length	2640 mm
Height	390 mm
Width	340 mm
Barrel length	2130 mm
Principle	External Power Supply
Explosive weight	35 gr
Energy consumed	4600W 650rpm, 1200W 400rpm
Feed	Double Feed
Rate of Fire	400 rounds/min
Output speed	1360 m/sec
Loading time	3 min
Effective range	1500 m
Strip feed	Continuous
Turn	360°



35 MM

TWIN BARREL
ANTI-AIRCRAFT GUN



35 MM TWIN BARREL ANTI-AIRCRAFT GUN	
Barrel Diameter	35 mm
Type	GDF-003B
Total Weight	6800 kg
Barrel Lenght	3150 mm
Rate of Fire	2×550 rounds/min
Armament	2 cannons + 2 Generators + Radar
Muzzle Velocity	175 m/sec
Rotation	Unlimited
Rotation to Target	5°/±95°
Max. Rotation Speed	2,095 rad/sec
Target Selection	Ferranti GSAMK 3
Target Seizure Range	50 km
Target locking Range	40 km
Effective Range	4000 m
Bullet Weight	1562 g

35 MM

WEAPON ASSEMBLY
AND RECOIL MECHANISM



35 MM WEAPON ASSEMBLY AND RECOIL MECHANISM	
Barrel Diameter	35 mm
Caliber	90 mm
Rate of Fire (2 Weapons)	2×550 rounds/min
Muzzle Velocity	~1.175 m/s
Number of Grooves	24
Rifling Angle	0° - 6° 30'
Barrel Weight	124 kg
Barrel Weight (With Muzzle)	132 kg
Barrel Length	3.150 mm
Weapon Assembly Weight	300 kg
Total Weight Net	432 kg
Total Length (With Barrel and Muzzle Brake)	4.424 mm
Total Height (With Barrel and Muzzle Brake)	473 mm
Total Width	280 mm
Effective Range	4 km
Storage Temperature	+70±2°C and -40±2°C
Operating Temperature	+44±2°C and -32±°C



60 MM
DAVRAZ
COMMANDO MORTAR



PT1	
Barrel Outer Diameter	Ø 66 mm
Barrel Inter Diameter	Ø 60,70 +0,05mm
Barrel Length	650 ± 1mm
Total Weight	8200 g
Max. Range	1500 m
Barrel life	4500 Time
Type of barrel	Monoblock, smooth
Type of firing	Stable idle

JT1	
Barrel Outer Diameter	Ø 66 mm
Barrel Inter Diameter	Ø 60,70 +0,05mm
Barrel Length	650 ± 1 mm
Total Weight	6250 g
Max. Range	1500 m
Barrel life	4500 Time
Type of barrel	Monoblock, smooth
Type of firing	Stable idle

HT1	
Barrel Inner Diameter	Ø 60,5 ± 0,3 mm
Barrel Outer Diameter	66 mm
Barrel Length	650 ± 1 mm
Total Weight	7470,5 g
Barrel Assy Weight	5746,8 g
Bipod Assy Weight	1723,7 g
Max. Range	1500 m
Sight	Special
Ammunition Types Used	HE M49 A2 ve TP M50 A2
Maximum Pressure	250 bar
Rate of Fire	20 rounds/min

81 mm Mortar is a unique wepon system providing extremely high performance with its operational logistics economy. It is designed and produced by MKE. Exceptional Range, Accuracy, Rapid movement to battle positions, easy portability over severe conditions.

81 MM
UT-1 MORTAR



81 MM	
Barrel Inner Diameter	81,4 mm
Barrel Outer Diameter	99 mm
Barrel Size (Length)	1453 mm
Total Weight	71.2 kg
Barrel Weight	28.1 kg
Cover Weight	19.6 kg
Bipod Weight	23.5 kg
Maximum Pressure	625 kg/cm²
Traverse Range	620 - 1450 milyem
Horizontal Range	90 milyem (right and left)
Sight	T-3
Max. Range	5900 m
Base Plate Diameter	550 mm
Rate of Fire	15 rounds/min
Crew	3

120 MM

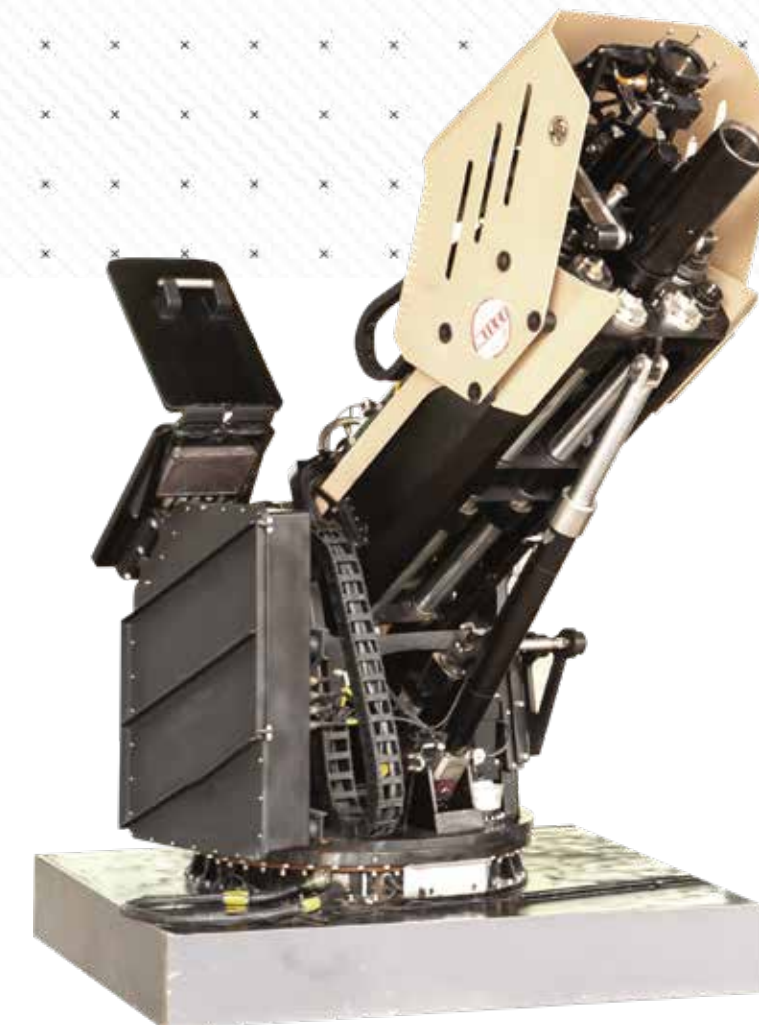
HY1-12 MORTAR



120 MM HY1- 12 MORTAR	
Barrel Inner Diameter	119.90 mm
Barrel Outer Diameter	160 mm
Barrel Size (Length)	1900 mm
Lenght	3100 mm
Width	1900 mm
Height	1350 mm
Total Weight	620 kg
Barrel Weight	143 kg
Base Plate Width	152 kg
Max. Range	8000 m
Maximum Pressure	1230 kg/cm²
Groove	40
Rate of Fire	7 rounds/min

120 MM

MORTAR SYSTEM



120 MM MORTAR SYSTEM	
Calibre	120mm
Weight	1350 kg
Operation Range	9500m
Rate of Fire	10 rds/min
Operation Elevation	45°-80°
Traverse	±180°
Ammunition Loading Type	Manual - Semi Automatic



105 MM
BORAN

AIR TRANSPORTABLE
LIGHT TOWED HOWITZER



105 mm Air Transportable Light Towed Howitzer, called BORAN is designed by MKE to pressure on brigade target, to utilize for Turkish Armed Forces internal security operations, to fire support for commando brigade and airborne operations. BORAN has 105mm/30 Caliber barrel and it satisfies 10-12 rds/min rate of fire, exceeding 18 km range at sea level with long range ammunition.



BORAN 105 MM	
Diameter	105 mm, 30 Caliber
Weight	1780+\\~20
Range	Up to 18 km
Angle of Elevation	-3°+70°
Angle of Traverse	8° right and 8° left
Deployment	Time to put in and out of action less than 1 minute
Operating Temperature	-32 °C + 44 °C
Rate of Fire	10-12 rounds/min



100% ELECTRIC
HYBRID

DAĞHAN

TRACKED ARMORED VEHICLE



DAĞHAN	
Power	630 HP
Max Speed	50 km/h
Acceleration (0-30 km/h)	4 s
Total Weight (Turretless)	18 tons
Generator Fuel Tank Capacity	600 litre
Generator Fuel Consumption	5,5 liter/h
Generator Capacity	2×20 kW
Battery Pack Capacity	258 kWh
Fuel Consumption	2,4 kW/km
During Operation (20 km/h)	600 km
During Operation (50 km/h)	450 km
Steep Slope Gradient	%60
Side Slope	%30
Unprepared Water Crossing	1,5 m





155 MM 52 CAL.

YAVUZ

TRUCK MOUNTED
HOWITZER

YAVUZ TRUCK MOUNTED HOWITZER	
Barrel	155 mm
Caliber	52
Crew	5
Weight	32 tons
Length	10.8 m
Height	4.1 m
Width	2.6 m
Max Speed	90 km/h
Operation Range	600 km
Rate of Fire	4-6 rds/min
Ammunition Capacity	18
Ammunition Loading Type	Manual feeding - Semi-automatic
Max. Elevation	+1165±5 mil
Min. Elevation	-53±5 mil
Traverse axis	300°
Engine	Euro 5 Dizel
Unprepared water crossing	1 m
Crossing ditch	0,45 m
Steep slope	% 45

Ammunition/Range

18 km with M107 (HE) ammunition
30 km with M549A1 (HE) ammunition
40 km with MOD274 ammunition



100% ELECTRIC
HYBRID

E-ZMA	
Acceleration	0 to 50 km/h: 9 seconds
Range	650 km
Power Group	Hybrid (Drive System 100% Electric Driven)
Weight	13 tons
Firepower	7.62 / 40 / 12.7 mm UKSS
Survivability	Environmental Monitoring System, Automatic Explosion Suppression System
Crew	7 Personnel
Maximum Speed	50 km/h
Steep Slope	60%
Side Slope	30%
Steep Obstacle	60 cm
Ditch Crossing	160 cm

E-ZMA

ELECTRIC ARMORED
COMBAT VEHICLE







155 MM
GÜRHAN

HYBRID PROPULSION HOWITZER

Range	18 km (M107) 30 km (Modern Project) 40 km (ERFB/Base Bleed Projectile)
Barrel Type	Monoblock, forged tube with auto frettage



100% ELECTRIC
HYBRID

* nominal values, applicable for specified conditions in the technical documentations.

GÜRHAN HYBRID PROPULSION HOWITZER	
Diameter	155 mm
Total Weight	4339 kg
Barrel Weight	2259 kg
Barrel Length	8095 mm
Groove	48
Breech Ring Weight	665 kg
Breech Weight	95 kg wedge type breech block
Ignition Type	Electro-Hydraulic servo system or manual
Rate of Fire	
Normal	6 rds/min
Max. Rate	3 rds/15 sec
Sustained Rate	2 rds/min

GÜRHAN HYBRID PROPULSION HOWITZER		
	DIESEL	HYBRID
Engine Type	MT-881 Ka-500	ELECTRIC 2P2S
Engine Power	1.000 HP (735 kW)	1.300 HP (970 kW)
Max Torque	3.000 Nm	10.000 Nm
Transmission	Allison X1100-5 Automatic	-
Gear	4 Forward, 2 Reverse	1 Forward, 1 Reverse
Weight (Full Load)	49 Tons	49 Tons
Maximum Speed	65 km/h	65 km/h
Acceleration	0-30 km/s 7 sec	0-30 km/s 6 sec
Gradient	60 %	60 %
Side Slope	40 %	40 %
Fuel	Diesel	Diesel (generator)

GÜRHAN HYBRID PROPULSION HOWITZER		
	DIESEL	HYBRID
Range (No-Load)*	500 km	500 km
Range (Full Load)*	225 km	300 km
Consumption (Full Load)*	160 L/h	25 L/h 7,5 kWh/km
Power/Weight	20 HP/ton	26 HP/ton
Battery Pack Capacity	-	387 kWh
Charging Time*	-	4 h
Generator Capacity	-	2 × 30 kW





76 / 62 MM
DENİZHAN
NATIONAL NAVAL GUN



DENİZHAN	
Operation	Air Defence Anti Surface Shore Bombardment
Rate of Fire	80 rds/min
Ready to Fire Ammunition	80
Weight (without ammunition)	7500 kg
Horizontal Axis Limit	± 360°
Vertical axis limit	-15°/+85°
Horizontal Speed/ Acceleration	60-65°/s / 72°/s²
Elevation Speed/ Acceleration	35-40°/s / 72°/s²
Range	16 km
Shield	Reduced Radar Cross Section
Control Console	Digital
Barrel Cooling	Sea water- fresh water for flushing
Power Requirement	440V, 3 Phase, 60Hz 115V, 2 Phase, 60Hz

130 MM
NATIONAL CHAFF
LAUNCHER SYSTEMS



130 MM NATIONAL CHAFF LAUNCHER SYSTEMS	
TYPE	MKE1302-SYS, MKE1304-SYS and MKE1304-MCAS
FEATURE	It is a system that protects the ship by creating false targets against enemy missiles.
SYSTEM COMPONENTS	Q130 mm C/F Launcher System, CMS Main Control Panel, Power Supply Panel, Bridge Launcher Control Panel, Ammunition Cabinet, Siren
OPERATING TEMPERATURE	-20 °C, 55 °C (According to MIL STD 810F)
BARREL ANGLES	30°, 45°, 60°



PIRANA KUSV

KAMIKAZE UNMANNED
SURFACE VESSEL



PIRANA KUSV	
Maximum Speed	50+ Knots
Range	200+ Nautical Miles
Displacement	1,200 kg
65 kg High-Explosive Warhead (50 kg main charge + 15 kg precursor)	
Water Jet Propulsion Diesel Engine	
Sea State Endurance:	Level 4



105 MM 51 CAL.

105 MM 51C

M68 T1 TANK
GUN WEAPON SYSTEM

105 mm M68 T1 Tank Gun is mounted on M48 battle tanks. It is a quick firing accurate weapon. The weapon is a rifled gun with a vertical sliding breech. It uses fixed ammunition which is electrically fired. After firing a semi automatic system opens the breech and drops the empty case. A full range of ammunition gives weapon system exceptional performance against all types of targets.



105 MM 51C	
Diameter	105 mm
Total Weight	1200 kg
Barrel Weight	760 kg
Breech Ring Weight	320 kg
Breech Weight	50 kg
Total Length	5550 mm
Barrel Size (Length)	5346 mm
Groove	28
Rate of Fire	6 rounds/min
Bullet Muzzle Velocity	683 m/s (with MKE MOD 233) 1485 m/s (with APFSDS-T)

120 MM 44 CAL.

120 MM 44C

M60 A1 TANK
GUN WEAPON SYSTEM



120 MM 44C	
Diameter	120 mm 44 Caliber
Barrel Type	Smooth Bore, Chrome Plated
Total Weight	3700 kg
Total Length	5812 mm
Width	640 mm
Rate of Fire	6 rounds/min
Effective Range	3000 m
Operating Temp	-45°C to +70°C





120 MM 55C	
Diameter	120 mm 55 Caliber
Barrel Type	Smooth Bore Chrome Plated
Total Weight	3103 kg
Total Length	7118 mm
Barrel Weight	1324 kg
Barrel Size (Length)	6600 mm
Rate of Fire	6 rounds /min
Effective Range	3000 m
Operating Temp	-32°C to +52°C

120 MM 44C	
Diameter	120 mm
Barrel Leght	5410 mm
Barrel Weight	1180 Kg



155 MM 39 CAL.

155 MM 39C

L-39 HOWITZER WEAPON SYSTEM

This gun system is produced by the modification of the standart M44 Howitzer. The major change involves, a new 39 cal. long barrel with large chamber, faster twist rifling and autofrettaged to provide maximum fatigue life. Therefore modifying the M44 with a new cannon assembly using a 39 cal. tube will increase its range capability and interoperability with modern ammunition.

155 MM 39C	
Diameter	155 mm
Barrel Weight	1460 kg
Breech Ring Weight	807 kg
Breech Weight	117 kg
Barrel Size (Length)	6037 mm (39 cal.)
Groove	48
Rate of Fire	6 rounds/min
Range	24000 m

155 MM 47 CAL.

155 MM 47C

L47 BARREL

155 MM 47C	
Diameter	155 mm
Barrel Leght	7285 mm
Barrel Weight	1683 Kg

127 MM

5 INCH

NATIONAL NAVAL ARTILLERY GUN BARREL

5 INCH (127 MM) NATIONAL NAVAL ARTILLERY GUN BARREL	
Diameter	127 mm
Barrel Leght	6858 mm
Barrel Weight	1629 Kg



155 MM 52 CAL.

155 MM 52C

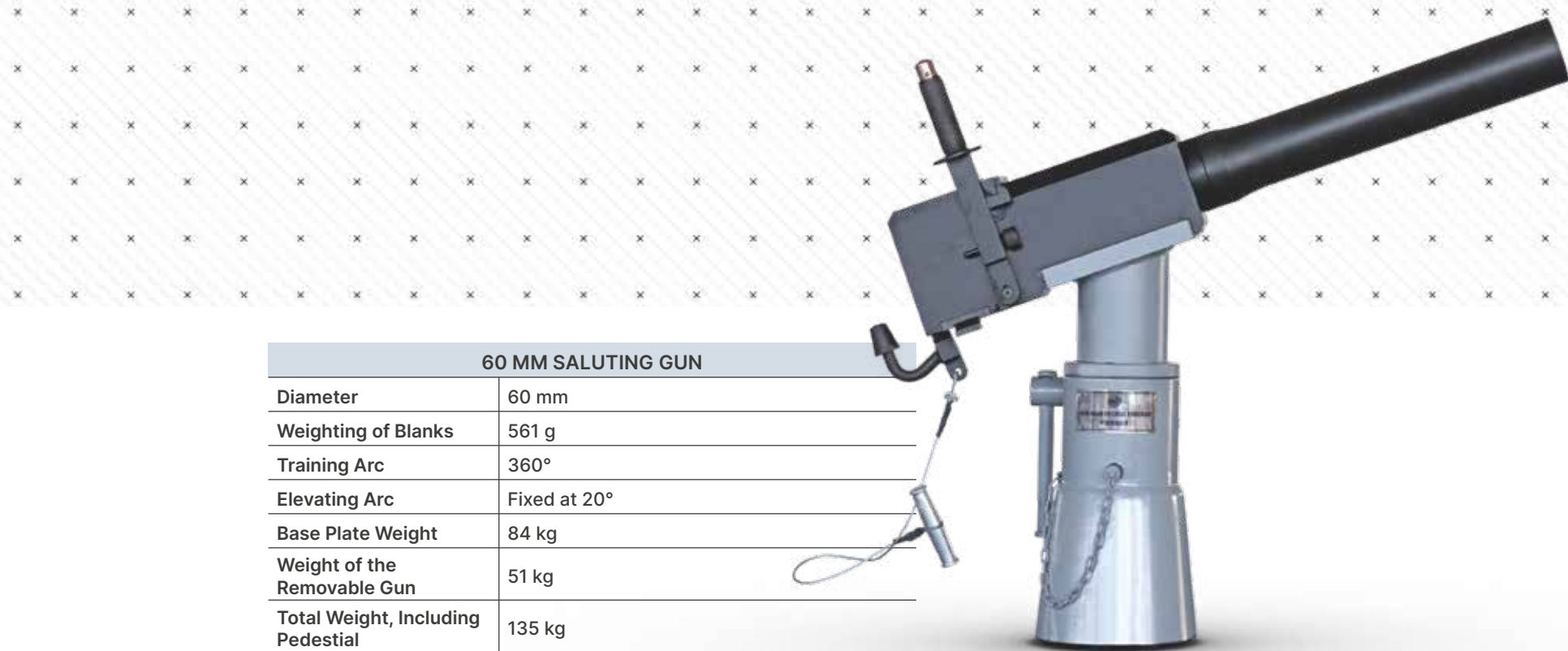
FIRTINA HOWITZER WEAPON SYSTEM



	PANTER	FIRTINA
Diameter	155 mm	155 mm
Total Weight	4176 kg	4339 kg
Barrel Weight	2240 kg	2259 kg
Barrel Length	8060 mm	8095 mm
Groove	48	48
Breech Ring Weight	200 kg	665 kg
Breech Weight	30 kg conical screw hydropneumatic	95 kg wedge type breech block
Ignition Type	-	Electro-Hydraulic servo system or manual
Rate of Fire		
Normal	4 rds/min	6 rds/min
Max. Rate	3 rds/15 sec	3 rds/15 sec
Sustained Rate	2 rds/min	2 rds/min
Range	18 km (M107)	18 km (M107)
	30 km (Modern Project)	30 km (Modern Project)
	40 km (ERFB/Base Bleed Projectile)	40 km (ERFB/Base Bleed Projectile)
Barrel Type	Monoblock, forged tube with auto frettage	Monoblock, forged tube with auto frettage

60 MM

SALUTING GUN



60 MM SALUTING GUN	
Diameter	60 mm
Weighting of Blanks	561 g
Training Arc	360°
Elevating Arc	Fixed at 20°
Base Plate Weight	84 kg
Weight of the Removable Gun	51 kg
Total Weight, Including Pedestial	135 kg
Barrel Type	Monoblock, smoothbore
Firing Mechanism Type	Manual
Sound Level	110 dB (minimum)
Sound Range	5 km (diameter)







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